

Applicant : Joyce S. Pleded  
 Serial No. : 10/089,583  
 Filed : March 28, 2002  
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A5 --4. (Amended) A vaccine according to claim 1, wherein the immunogenic component is substantially free from outer core lipopolysaccharide.--

--5. (Amended) A vaccine according to claim 1, wherein the species of the pathogenic *Neisseria* is *Neisseria meningitidis*.--

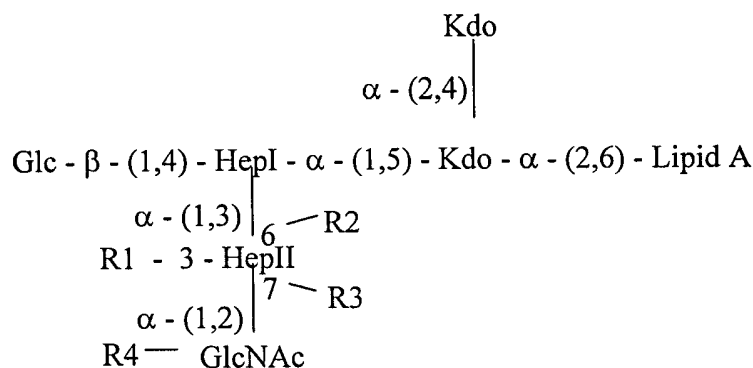
A6 --9. (Amended) A vaccine according to claim 1, wherein the immunogenic component comprises of or consists of an epitope which is a part or all of the inner core structure of a *Neisseria* LPS, is derived from this inner core, is a synthetic version of the inner core, or is a functional equivalent thereof.--

--10. (Amended) A vaccine according to claim 1, wherein the immunogenic component is an epitope on the LPS inner core characterized by the presence of a phosphoethanolamine moiety linked to the 3-position at HepII of the inner core, or is a functional equivalent thereof.--

--11. (Amended) A vaccine according to claim 1, wherein the immunogenic component is an epitope on the LPS inner core which comprises a glucose residue at HepI.--

--12. (Amended) A vaccine according to claim 1, wherein the immunogenic component is an epitope on the LPS inner core which comprises an N-acetyl glucosamine at HepII of the inner core LPS.--

--13. (Amended) A vaccine according to claim 1, wherein the inner core LPS consists of an inner core oligosaccharide attached to lipid A, with the general formula as shown:



where R1 is a substituent at the 3-position of HepII, and is hydrogen or Glc- $\alpha$ -(1, or phosphoethanolamine; R2 is a substituent at the 6-position of HepII, and is hydrogen or

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phosphoethanolamine; R3 is a substituent at the 7-position of HepII, and is hydrogen or phosphoethanolamine, and R4 is acetyl or hydrogen at the 3-position, 4-position or 6-position of the GlcNAc residue, or any combination thereof; and where Glc is D-glucopyranose; Kdo is 3-deoxy-D-manno-2-octulosonic acid; Hep is L-glycero-D-manno-heptose, and GlcNAc is 2-acetamido-2-deoxy-D-glucopyranose.--

--14. (Amended) A vaccine according to claim 1, wherein the immunogenic component is reactive with the B5 antibody produced by the hybridoma deposited under accession number IDAC 260900-1.--

A7  
--17. (Amended) A vaccine according to claim 15, wherein the said few immunogenic components elicit functional antibodies in at least 85% of the strains within the species of the pathogenic *Neisseria*.--

A8  
--19. (Amended) A vaccine according to claim 15, wherein an immunogenic component is reactive with the A4 antibody produced by the hybridoma deposited under accession number IDAC 260900-2.--

--20. (Amended) A vaccine according to claim 1, wherein the immunogenic element of the vaccine is an epitope accessible on the bacterium in the presence of bacterial capsule.--

--21. (Amended) A vaccine according to claim 1, comprising one or more immunogen components which are capable of stimulating antibodies which are opsonic.--

--22. (Amended) A vaccine according to claim 1 for the treatment of *Neisseria meningitidis*.--

A9  
--24. (Amended) A vaccine according to claim 1 for the prevention of meningitis, septicaemia or pneumonia or other manifestation of systemic or local disease occasioned by *Neisseria meningitidis*.--

--25. (Amended) A vaccine according to claim 1 for the treatment of urethritis, salpingitis, cervicitis, proctitis, pharyngitis, pelvic inflammatory disease or other manifestation of systemic or local disease occasioned by *Neisseria gonorrhoeae*.--

--26. (Amended) A vaccine according to claim 1 which is a conjugated vaccine.--

--27. (Amended) A vaccine according to claim 1, which is derived from a commensal *Neisseria*.--

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A10 --35. (Amended) A pharmaceutical preparation comprising an antibody according to claim 29 in combination with a pharmaceutically acceptable carrier.--

--36. (Amended) A method for the treatment of *Neisseria* infection, the method comprising administering to a subject in need of such treatment an effective amount of a vaccine according to claim 1.--

--37. (Amended) A method for the treatment of *Neisseria* infection, the method comprising administering to a subject in need of such treatment an effective amount of an antibody according to claim 28.--

A11 --41. (Amended) Use of an antibody according to claim 29 in the preparation of a medicament for the treatment of *Neisseria* infection.--

In the abstract:

Please include the following abstract.

A12 --The invention relates to a vaccine for the treatment of disease caused by *Neisseria*, the vaccine including one or more immunogenic components for *Neisseria* serogroups, as well as antibodies to the immunogenic components and methods of preventing and treating *Neisseria* infections. The immunogens are based on elements of the inner core lipopolysaccharide.--